

REMARKS

This application has been amended so as to place it in condition for allowance at the time of the next Official Action.

At the outset, applicants note that this amendment is made in a reissue application. Accordingly, the form of the amendment is not dictated by 37 CFR §1.121, but rather by 37 CFR §1.173. Moreover, MPEP Section 1453 provides both a narrative description of the proper form for amendments in a reissue application as well as helpful examples.

The status of each claim and where the current form of each claim can be found are as follows:

1. pending (amendment of May 31, 2005);
2. pending (unchanged from issued patent);
- 3-5. pending (amendment of May 31, 2005);
- 6-12. pending (original patent)
13. pending (amendment of May 31, 2005);
14. pending (present amendment);
15. canceled (present amendment);
- 16, 17. pending (amendment of May 31, 2005);
- 18-20. pending (amendment of July 30, 2003);
- 21, 22. pending (amendment of February 8, 2006);
- 23, 24. pending (amendment of July 30, 2003);
25. pending (amendment of February 8, 2006);
- 26-28. pending (amendment of July 30, 2003);
- 29, 30. pending (amendment of May 31, 2005);

31-33. pending (present amendment);

34, 35. pending (present amendment).

The present amendment modifies each of claims 14 and 31-33. In accordance with the rules defining amendments in reissue applications, each of these claims is shown completely underlined, as none of these claims was present in the patent whose reissue is now sought.

Applicants note that claim 14 is modified by the addition of the new final paragraph reciting that the interior surface is continuous throughout an entirety of the recess. That feature previously was recited in claim 15, canceled by the present amendment. This renders moot claims 21 and 25, canceled by the present amendment.

The present amendment to claim 31 consists entirely of the addition of the final two paragraphs, which recite that the recited wall tapers as it approaches the opening and that the interior surface is continuous throughout an entirety of the recess.

Finally, the present amendment to claims 32 and 33 is merely as to dependency. Each previously depended from claim 26 and now depends from amended claim 31.

As each of the modifications to the present claims is in the form of moving recitations that already appeared in other pending claims, it is believed to be unnecessary to identify the

support for each such amendment, as this has already been established.

The Official Action rejects claims 14, 15, 21, 22, 25, and 31-33 under 35 USC §103(a) as being unpatentable over BERNHARDT et al. in view of RHINEVAULT. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

At the outset, applicants note that the RHINEVAULT document is an extraordinarily old reference and describes subject matter utterly distinct from that of the present device as recited. In this regard, the very age of the document serves to indicate that, while the general teachings of such reference have been known for scores of years, it has nevertheless fallen upon the present inventors to arrive at the recited device. This supports the non-obviousness of the device as claimed.

As to the BERNHARDT et al. reference, applicants note that claims 14 and 15, now effectively combined as amended claim 14, provides a bone-anchoring element having a head shaped so as to allow grasping with a screwing tool. Such a feature is clearly absent in the screw defined by BERNHARDT et al. when the element is in a position to anchor into a bone, i.e., when the upper shank is mounted on the base screw part. Applicants also note that in the Official Action's detailed analysis of the claims underlying the rejection, the recited feature of the shape of the head is not discussed.

Applicants note that the shape of the head of the BERNHARDT et al. device with the sleeve 48 attached presents an outline which cannot be used by any other element to induce rotation of the sleeve 48. This derives from the fact that the sleeve 48 is symmetrical about the axis of the screw. Accordingly, the shape of the BERNHARDT et al. device presents no means by which rotation can be induced. As the present claims define the head as having an opening into a recess defined by an approximately hemispherical interior surface, the interpretation of the BERNHARDT et al. device as having a head must include the sleeve 48 attached and it cannot be considered the portion 36 of the screw itself.

In further support of this feature, applicants have added new claims 34 and 35 depending from independent claims 14 and 31, respectively. Each recites that the head is shaped in an outline such that, when fitted with the correspondingly shaped cavity in a tool, rotation of the tool causes rotation of the head. Support for this feature can be found at least in column 4 of the issued patent whose reissue is now sought, beginning on line 57. As noted beginning on line 64, the head 5 has a shape which can cooperate with the screwing tool. No such cooperation is possible with the head of the BERNHARDT et al. device which must necessarily include sleeve 48, in light of the axial symmetry thereof.

Additionally, as noted above, the previously pending claims 14 and 15 are now combined into amended claim 14. Claim 14 now recites that the wall defining the interior and exterior surfaces of the head both tapers and is continuous. The wall clearly is not continuous in the head of the RHINEVAULT device, where the wall has notches extending on the major portion thereof, as clearly illustrated in Figure 1 of such reference. These notches are provided for the purpose of allowing a snapping of the head 6 on the ball 7. They do not, however, provide for crimping because the connection is designed not to work in traction, but rather only in compression.

Such combination of tapering and a continuous wall on the vertebral osteosynthesis groove of the present device provides particular benefits. These include providing connection that can ensure a suitable resistance in traction. Additionally, it allows for reduced height, which is very important for this kind of screw in order to minimize the likelihood of the device being felt under the skin. Additionally, there results reduced play between the ball and head of the screw. This is important in an application of this type so as to eliminate wear and the potentially resulting diffusion of metallic particles within the body of the patient. This could have considerable detrimental impact on the health of the patient.

The combination of the continuous and tapering wall appears in claim 31 in its current form, in addition to claim 14.

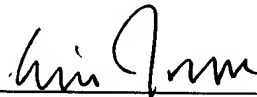
In light of the amendments provided above and the arguments offered in support thereof, applicants believe that the present application is in condition for allowance and an early indication of the same is respectfully requested.

If the Examiner has any questions or requires further clarification of any of the above points, the Examiner may contact the undersigned attorney so that this application may continue to be expeditiously advanced.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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